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| **On&Offshore Newsletter** |
| Around Barbados with MYP5 |
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| MYP5 studied coastal erosion last unit and we went on a tour around the island to see how Barbados has helped their coasts with different factors that will be specified in the article. |
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Barbados is a tourist island, where they come and enjoy the beaches and the environment. Therefore the Barbados Coastal Zone Management Unit (CZMU) has decided to start improving the conditions around the beaches by help preventing too much erosions and help the environment build up new beaches with more sand and less current so that it is friendlier towards the younger. Barbados has also realized that the sea level rise will be a major factor to take in account when building new facilities around the island.

There were many ways that the CZMU could choose to do. We had a presentation at the CZMU office where we heard a little about their plans and they have chosen to hold the line. This was to them the easiest way to do. There were 5 main points that we looked at, where they chose some of them to do. The five concepts are:

* To do nothing
* To do nothing, basically means to actually do nothing. This would be used for the east coast, where they will leave nature at its will.
* Maintain (Hard options)
* This means to build up something that could be seen to help keep the beaches from eroding or to keep facilities build close to the water front from breaking down. Examples of these are revetments, groynes or piles. This option has been used many places, some of the best examples are the boardwalks on the south and west coast.
* Control (Soft options)
* This means that you would use the current facilities available close to the waterfront to control it.
* Advance the line
* This means that the area is helped by for example filling in extra sand to create a longer or wider beach. This can be done by bringing in sand from another place and dumping it around, and then move it however it is supposed to be.
* Retreat/Abandon/Relocate
* This means that the facilities close to the water would do either of the above if possible. This is mostly possible if there is a lot of place around the beach.

We discussed some of these with Antonio Rowe, and he told us that they were doing some of these. Antonio Rowe also talked about the changes they did on the south and west coast, where they newly built the boardwalks.

During the presentation we learned a lot about the Barbados Coasts and how they have eroded. It started in 1983, when there was a change in the waters in the west coast, by Holetown, and a diagnostic study was done to the water to test what the problem was. Another study was also made to see if it was from litter. The poor quality of the water killed the reef around Barbados, which is bad because Barbados needs the reefs to protect it from destructive waves. In an effort to save the reef and make the water conditions better, there was some poorly constructed coastal management done. In 1998 the high-water rule was set for the South and West coast, which means that facilities has to be built 30 miles away from the high water point. It was different on the East coast, because it was left to erode or grow by itself, so it faced some different issues, which caused the rules to be that all facilities had to be built 100m-200m away from the coast.

The CZMU started a program called the Coastal Infrastructure Program (CIP) and this was to help with the enhancement and stabilization of the coasts of Barbados. They loaned about $2.42 million US, as well as signed a contract for 4 years, but had it extended for 2 years. There were 4 main objects that they had to take care of. These were: shoreline stabilization, restoration of coastal habitats, improvement of public access and institutional strengthening for coastal management. There were many coasts where they decided to help, some of these were:

* Crane
* Silver Sands
* Holetown Lagoons
* Holetown beach
* Rockley
* Tent Bay
* Walkers Savannah
* Welches

There were many things that the CZMU had to do in order to get all of the money and work. It took 3 major steps to get to the end; identify problem, find solutions and investigate it, about how it will help, how much it will cost and what they will need.

**This picture shows the boardwalk as it is done. You can see natural groynes coming out.**



We went to the south coast first to experience the newly built boardwalk, that Barbados made for both tourists, to make it easier to travel along the beach, but also to stop erosion and too much movement of the beach. The board walk is built so that the planks on the walk can easily fall off, so that if the water enters underneath, then it is easy for the water to move up instead of hitting against the planks and destroying them.

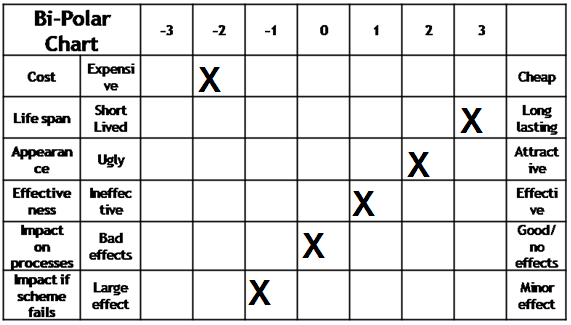
 They placed small groynes along the boardwalk, and most places where there is no sand, they put down large rocks instead. This is a cheap and environmental way to help stop erosion, because the rocks has gaps between them, so that the water doesn’t just hit a wall, but the water enters the small gaps and this takes off some of the strength of the water, and rocks will last longer.

**This is a groyne coming out from the boardwalk. Groynes stops sand from moving too much.**

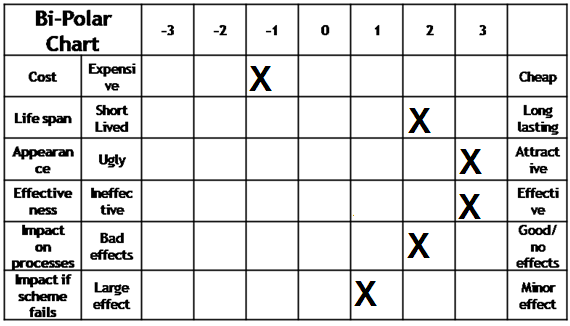
We then went to the west coast to see how the boardwalk there was different from the south coast. The main difference was that there were no man-made groynes, but there were some natural ones. The boardwalk is raised away from the water, and all around it, it is covered with rocks. It also continues into the sand a lot, like it stops and then it continues again. It doesn’t lead down to a beach either, unless it stops completely, compared to the south coast, where you can walk down two steps and be on the beach or the boardwalk will be the same level as the beach. I think this is the main difference. However, on the west coast there is more coral around it, which takes off some of the wave power. But building are built closer to the water as well. Restaurants are very close to the beach. In front of some, there are made two lines of rocks. One will be a little further out, and one will be at the shoreline. This is to prevent waves from getting so much power, that the water will splash up into the restaurant, I’m guessing. There are more natural facilities on the west coast, that man has just left alone and it is protecting it pretty much as much as it needs.

We did some analyses of what we thought of it, and the result was that Holetown had done more tourist friendly facilities, that might be cheaper and south coast had better long lasting facilities, but which was more expensive, and when it was being built, many people complained about it.

**South Coast:**

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**West Coast:**

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Finally, we went to the east coast which is the complete opposite of what the south and west coast looks like. The east coast doesn’t have as much population and it is pretty much left alone. The beach is longer on that side and there is more vegetation. Maybe if everything was left alone, it would go the same as with the east coast. But also, people are building too close to the water, so I think that is why the water has started to hit against it, because whenever the water retreats, we build on top of it.

Barbados has a lot of coral, which we really depend on, but our water conditions are so bad that it is all dying off. Therefore Barbados has started to build facilities to help make the conditions better, so that the coral will stay alive. It’s necessary both for tourism, but also for taking off wave power.

**Sour ces:**

* Mr. Piers’ Powerpoint
* CZMU director, Mr. Brewster power-point.
* CZMU newsletter